

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with John Gillick (Reg No. 63,027) on May 25, 2009.
3. The claims have been amended as follows:
 - a. Claim 36: replace claim 36 with the following:

36. A method for monitoring updates in a software repository in a multi-author software design environment, comprising:
constructing a first snapshot of a set of software module source code stored by the software repository at a first point in time, the source code represented by a plurality of objects;
constructing a second snapshot of the set of software module source code stored by the software repository at a second point in time;
comparing the first snapshot with the second snapshot, to detect differences in the source code;
rating each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders a source code attribute of the second snapshot incompatible with a similar source code attribute of the first snapshot;

determining an overall backward compatibility score for the second snapshot, based on the rated differences; and

issuing an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold, wherein the alert message is issued only to users associated with objects for which differences are detected.

b. Claim 48: replace claim 48 with the following:

48. A system for monitoring updates in a software repository in a multi-author software design environment, comprising:

a processor configured to construct a first snapshot of a set of software module source code stored by the software repository at a first point in time, the source code represented by a plurality of objects;

the processor configured to construct a second snapshot of the set of software module source code stored by the software repository at a second point in time;

the processor configured to compare the first snapshot with the second snapshot, to detect differences in the source code;

the processor configured to rate each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders a source code attribute of the second snapshot incompatible with a similar source code attribute of the first snapshot;

the processor configured to determine an overall backward compatibility score for the second snapshot, based on the rated differences;

the processor, in connection with an output device, configured to issue an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold, wherein the alert message is issued only to users associated with objects for which differences are detected.

c. Claim 58: replace claim 58 with the following:

58. A computer-readable storage medium encoded with instructions configured to be executed by a processor, the instructions which, when executed by the processor, cause the performance of a method, comprising:

- constructing a first snapshot of a set of software module source code stored by the software repository at a first point in time, the source code represented by a plurality of objects;

- constructing a second snapshot of the set of software module source code stored by the software repository at a second point in time;

- comparing the first snapshot with the second snapshot, to detect differences in the source code;

- rating each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders a source code attribute of the second snapshot incompatible with a similar source code attribute of the first snapshot;

- determining an overall backward compatibility score for the second snapshot, based on the rated differences; and

- issuing an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold, wherein the alert message is issued only to users associated with objects for which differences are detected.

d. Claim 68: replace claim 68 with the following:

68. A method for monitoring updates in a software repository in a multi-author software design environment, comprising:

- associating a registered author of the software design environment with a subset of a plurality of software module source code stored by the software repository, the

source code defining a plurality of objects, wherein the subset is based on input received from the registered author;

constructing a first snapshot of the subset at a first point in time;

constructing a second snapshot of the subset at a second point in time;

wherein each snapshot includes an aggregation of methods and parameters of the software module source code in the subset, with methods and parameters of any software module referenced by the software module source code in the subset;

comparing the first snapshot with the second snapshot, to detect differences in the source code;

rating each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders a source code attribute of the second snapshot incompatible with a similar source code attribute of the first snapshot;

determining an overall backward compatibility score for the second snapshot, based on the rated differences; and

issuing an alert message to the registered author of the subset when the overall backward compatibility exceeds a predetermined threshold set by input from the registered author, the alert message including a list of each rated difference, wherein the alert message is issued only to users associated with objects for which differences are detected.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance: the prior art of record fails to teach or suggest the claimed invention. Specifically, the prior art of record fails to teach or suggest a method for monitoring updates in a software repository in a multi-authored environment comprising: constructing a first snapshot and a second snapshot of the software module source code stored by the software repository, comparing the first and second snapshots

to determine backward compatibility for the second snapshot, and issuing an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold, wherein the alert message is issued only to users associated with objects for which differences are detected.

5. The prior art of record, Schwabe teaches comparing versions of code to detect differences between the code and issuing an alert message containing an overall backward compatibility. The prior art of record, Atallah teaches rating difference between versions of software products according to a compatibility metric and determining an overall compatibility of the software products based on the difference ratings. The prior art of record, Lin teaches issuing alert messages to registered authors of software components in a multi-author software design environment to indicate conflicts. However, Schwabe, Atallah, and Lin fail to teach the independent claim as recited which monitors updates in a software repository in a multi-authored environment comprising: constructs a first snapshot and a second snapshot of the software module source code stored by the software repository, comparing the first and second snapshots to determine backward compatibility for the second snapshot, and issuing an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold, wherein the alert message is issued only to users associated with objects for which differences are detected.

6. Any comment considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jue S. Wang whose telephone number is (571) 270-1655. The examiner can normally be reached on M-Th 7:30 am - 5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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